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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,354	09/27/2001	Rumo Satake	07977/285001/US5238	3893

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EXAMINER	
DHARIA, PRABODH M	
ART UNIT	**PAPER NUMBER**
2629	

MAIL DATE	DELIVERY MODE
09/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/966,354	SATAKE, RUMO	
	Examiner	Art Unit	
	Prabodh M. Dharia	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --.

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,16,17,19-23 and 25-29* is/are pending in the application.

4a) Of the above claim(s) *15,18 and 24* is/are withdrawn from consideration.

5)☒ Claim(s) *1,3,4,6-10,16,19-23 and 25-29* is/are allowed.

6)☒ Claim(s) *2,5,11-14 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. **Status:** Please all the replies and correspondence should be addressed to Examiner's new art unit 2629. This office action is per advisory office action of 08-02-2007. Claims 1-14, 16,17, 19-23 and 25-29 are pending in this action. Claims 15, 18 and 24 are cancelled.

Response to Amendment

2. The amendment filed on 08-02-2007 does not introduce any new matter into the disclosure. The added material is supported by the original disclosure. Applicant has amended independent claims 2 and 11 to over come prior art rejection. Applicant has cancelled claim 24.

3. Applicant has amended drawings per objection by labeling "prior art" to figure 7. Therefore objection to drawing is withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa; Tokuro (US 6,424, 331 B1) in view of BOLOTSKI, MICHAEL et al. (US 2003/0043093 A1).

Regarding Claim 2, Ozawa; Tokuro teaches method of driving a liquid crystal display device (Col. 1, Lines 16-31) comprising a step of simultaneously applying a common signal voltage to a plurality of pixel electrodes of a plurality of pixels connected to a signal line (Col. 1, Lines 16-37), thereby displaying a common gray-scale among the plurality of pixels connected to the signal line (Col. 1, lines 16-40, Col. 18, Lines 43-62, Col. 22, Lines 51-62).

However, Tokuro fails to recite wherein the liquid crystal display, device is driven as a field sequential system.

However, the liquid crystal display, device is driven as a field sequential system is well known to one ordinary skill in the art (please see Hasegawa; Rei et al. (US 6,344,889 B1) Col. 21, Lines 60-64, Nakanishi; Hiroshi et al. (US 5,969,832 A) Col. 6, Lines 13-28). However, BOLOTSKI, MICHAEL et al. (US 2003/0043093 A1) discloses the liquid crystal display, device is driven as a field sequential system (page 1, paragraphs 9,10).

The reason to combine the BOLOTSKI et al. declares the some of the prior rat teaching has short falls on the way LCD field sequential system is driven; such as temporal crosstalk also has undesirable effects in the field-sequential color mode of operation. BOLOTSKI et al. teaches improvement over the prior art to minimize or reduce crosstalk in LCD field sequential system.

Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Tokuro apparatus with BOLOTSKI et al. to be able to have a display system that produces gray scale full color display without using filter for colors and operate in improved field sequential system reducing cost of the filter and circuitry, which produces better yield (page 4, paragraph 60).

Regarding Claim 5, Ozawa; Tokuro teaches a first light emission color, a second light emission color, and a third light emission color are intermittently incident upon the liquid crystal display device (Col. 1, lines 16-40, Col. 18, Lines 43-62, Col. 22, Lines 51-62, Col. 11, Lines 41-44, Col. 33, Lines 20-39).

6. Claims 11-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki; Suguru (US 6522319 B1) in view of BOLOTSKI, MICHAEL et al. (US 2003/0043093 A1).

Regarding Claim 11, Yamzaki teaches a liquid crystal display device (Col. 1, Lines 14 and 15), comprising: a plurality of pixels; a plurality of pixel electrodes included in the pixels respectively (Col. 2, Lines 1-9); a first means for detecting pixels which are connected to one signal line (Col. 23, Lines 62-66 teaches the driving circuitry determines the non- display and displaying pixels which is same as detecting of connected pixels) and which are to be applied with a common signal voltage for displaying a common gray-scale among the pixels (Col. 23, Lines 49-65 teaches off pixels are supplied off voltage and on pixels are applied on voltage Col. 23, Lines 28-33 common contrast or grayscale is maintained, Col. 29, Lines 54-60, Col. 34, Lines 20-29); and a second means for simultaneously applying the common signal voltage to pixel electrodes of the detected pixels (Col. 23, Lines 49-65 the on pixels are applied on voltages and off pixels are applied off voltages Col. 21, Lines 65-67 teaches driving simultaneously).

However, Tokuro fails to recite wherein the liquid crystal display, device is driven as a field sequential system.

However, the liquid crystal display, device is driven as a field sequential system is well known to one ordinary skill in the art (please see Hasegawa; Rei et al. (US 6,344,889 B1) Col. 21, Lines 60-64, Nakanishi; Hiroshi et al. (US 5,969,832 A) Col. 6, Lines 13-28). However, BOLOTSKI, MICHAEL et al. (US 2003/0043093 A1) discloses the liquid crystal display, device is driven as a field sequential system (page 1, paragraphs 9,10).

The reason to combine the BOLOTSKI et al. declares the some of the prior rat teaching has short falls on the way LCD field sequential system is driven; such as temporal crosstalk also has undesirable effects in the field-sequential color mode of operation. BOLOTSKI et al. teaches improvement over the prior art to minimize or reduce crosstalk in LCD field sequential system.

Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Tokuro apparatus with BOLOTSKI et al. to be able to have a display system that produces gray scale full color display without using filter for colors and operate in improved field sequential system reducing cost of the filter and circuitry, which produces better yield (page 4, paragraph 60).

Regarding Claim 12, Yamazaki teaches the second means includes a means for selecting a signal line connected to the detected pixels, and a means for selecting a scanning line connected to one of the detected pixels (please see figures 11-15, and 51, Col. 14, Line 51 to Col. 15, Line 14, Col. 30, Lines 4-40, the scanning and signal line driver has decoders to select detected or displaying pixels).

Regarding Claim 13, Yamazaki teaches the means for selecting a signal line has an address decoder (please see figures 11-15, and 51, Col. 14, Line 51 to Col. 15, Line 14, Col. 30, Lines 4-40, the scanning and signal line driver has decoders to select detected or displaying pixels).

Further Regarding Claim 14, Yamazaki teaches the means for selecting a scanning line has an address decoder (please see figures 11-15, and 51, Col. 14, Line 51 to Col. 15, Line 14, Col. 30, Lines 4-40, the scanning and signal line driver has decoders to select detected or displaying pixels).

Further Regarding Claim 17, Yamazaki teaches a light source of a first light emission color, a light source of a second light emission color, and a light source of a third light emission color (Col. 34, Lines 14-19, Col. 16, Lines 8-13, Col. 29, Lines 54-60, Col. 34, Lines 20-29).

Allowable Subject Matter

7. Claims 1,3,4,6-10,16,19-23 and 25-29 are allowed.

8. The following is an examiner's statement of reasons for allowance:

The cited prior arts on 892's, 1449's,PGPUB and prior artsof Ozawa; Tokuro (US 6,424, 331 B1) and Yamazaki; Suguru (US 6522319 B1).failed to teach applicant's claimed invention, in which, "a response time of liquid crystal when a voltage value is changed from the first signal voltage to the second signal voltage is calculated, and in an order from a pixel in which the calculated response time of liquid crystal is long, the potential of the second signal voltage is

applied to the pixel electrode of the pixel in the second sub-frame period; applying a potential of a first signal voltage to the first and second pixel electrode and applying a potential of a second signal voltage to the second pixel electrode, wherein a difference between an absolute value of the first signal voltage and the second signal voltage is larger than 0 volt and smaller than 0.5 volt; and deciding an order of applying the second signal voltages to the plurality of pixel electrodes in accordance with a voltage difference between the first and second signal voltages of the corresponding pixel electrodes".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments, see remark, filed 08-02-2007, with respect to the prior arts fail to teach amended claim(s) 2 and 11 are persuasive. However, upon further consideration, a new ground(s) of rejection is made in view of BOLOTSKI, MICHAEL et al. (US 2003/0043093 A1).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

12. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

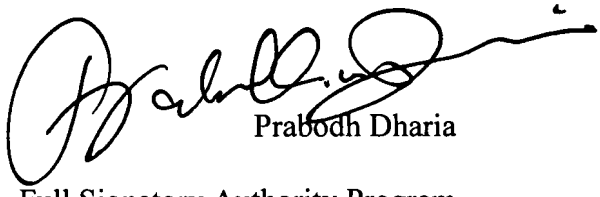
13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231



Prabodh Dharia

Full Signatory Authority Program

AU 2629

September 5, 2007